Examiners amendment

AKZO PATENT

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1. (original) An ortho ester surfactant of the formula

$$\begin{array}{cccc} O \longrightarrow (A_1)_{n1}R_1 & & & \\ I & & C \longrightarrow O \longrightarrow R_3 & & \\ I & & & (I) & \\ O \longrightarrow (A_2)_{n2}R_2 & & & \end{array}$$

where R is hydrogen or an aliphatic group with 1-7 carbon atoms;  $R_1$  is hydrogen or an alkyl group with 1-5 carbon atoms;  $A_1$  is an alkyleneoxy group with 2-4 carbon atoms, the number of ethyleneoxy groups being at least 50% of the total number of alkyleneoxy groups;  $n_1$  is a number between 1 and 30;  $R_2$  is an aliphatic group with 5-22 carbon atoms;  $A_2$  is an alkyleneoxy group with 3-4 carbon atoms;  $n_2$  is a number between 0-30, provided that when  $R_2$  is an aliphatic group with 5-6 carbon atoms  $n_2$  is at least 1;  $R_3$  is selected from the group consisting of  $(A_1)_{n_1}R_1$ ,  $(A_2)_{n_2}R_2$  and an alkyleneoxy with 1-6 carbon atoms, where  $A_1$ ,  $n_1$ ,  $R_1$ ,  $A_2$ ,  $n_2$  and  $R_2$  have the same meaning as mentioned above; or a di- or polycondensate via any of the free hydroxy groups of the ortho ester.

- 2. (original) The ortho ester surfactant of claim 1, wherein  $R_1$  is an alkyl group with 1-4 carbon atoms.
- 3. (original) The ortho ester surfactant of claim 1 wherein  $n_1$  is a number between 2-25 and  $n_2$  is a number between 0-20.
- 4. (original) The ortho ester surfactant of claim 1 wherein  $n_2$  is 0,  $R_2$  is an aliphatic group with 8-22 carbon atoms and  $A_1$  is an ethyleneoxy group.

5. (withdrawn) A process for the preparation of the ortho ester surfactant of claims 1 which comprises reacting an ortho ester of the general formula

where R is hydrogen or an aliphatic group with 1-7 carbon atoms and  $R_4$  is an alkyl group with 1-6 carbon atoms, in one or several steps, with reactants having the formulas  $HO(A_1)_{n1}R_1$  and  $HO(A_2)_{n2}R_2$ , wherein  $R_1$  is hydrogen or an alkyl group with 1-5 carbon atoms;  $R_2$  is an aliphatic group with 5-22 carbon atoms;  $A_2$  is an alkyleneoxy group with 3-4 carbon atoms;  $A_1$  is an alkyleneoxy group with 2-4 carbon atoms, the number of ethyleneoxy groups being at least 50% of the total number of alkyleneoxy groups;  $n_1$  is a number between 1 and 30; and  $n_2$  is a number between 0-30, provided that when  $R_2$  is an aliphatic group with 5-6 carbon atoms  $n_2$  is at least 1, while evaporating alcohols with the formula  $R_4OH$ , where  $R_4$  has the same meaning as above.

- 6. (original) An emulsifying agent which comprises at least one ortho ester of claims 1.
- 7. (previously presented) A dispersing agent that comprises at least one ortho ester of claims 1.
- 8. (previously presented) A cleaning or scouring composition that comprises the ortho ester of claim 1.
- 9. (withdrawn) A method of separating a hydrophobic component from an aqueous system that comprises

- emulsifying or dispersing said hydrophobic component in said aqueous system at a pH of 6 or above in the presence of an ortho ester in accordance with claim 1,
- b) lowering the pH or increasing the temperature of the emulsion or dispersion resulting from step a), or a combination thereof, and thereby breaking the emulsion or dispersion, and
- c) separating the hydrophobic component from the aqueous system.
- 10. (withdrawn) The method of claim 9 wherein the temperature in step b is raised to between 20 and 60°C.
- 11. (withdrawn) The method of claim 9 wherein the pH in step b is between 4 and 6.
- The method of claim 9, wherein said hydrophobic component 12. (withdrawn) A dyeing or deinking process that comprises the use of at least one ortho ester of claim 1.
- is hydrophobic ink
- 13. (previously presented) A pesticidal formulation that comprises at least one ortho ester of claim 1.
- 14. (previously presented) An alkaline hard surface cleaner that comprises at least one ortho ester surfactant according to claim 1.
- 15. (withdrawn) A method for cleaning a hard surface contaminated with hydrophobic dirt which comprises applying to said surface an aqueous, alkaline hard surface cleaner according to claim 14 in an amount effective for said surfactant in said cleaner to disperse the dirt from said hard surface thereby forming an aqueous wastewater stream, followed by acidifying said wastewater stream thereby causing the hydrophobic dirt to separate from the aqueous phase.

16. (previously presented) An ortho ester surfactant of the formulà

where R is hydrogen or an aliphatic group with 1-7 carbon atoms; R<sub>1</sub> is hydrogen or an alkyl group with 1-5 carbon atoms; A<sub>1</sub> is an alkyleneoxy group with 2-4 carbon atoms, the number of ethyleneoxy groups being at least 50% of the total number of alkyleneoxy groups; n<sub>1</sub> is a number between 1 and 30; R<sub>2</sub> is an aliphatic group with 5-22 carbon atoms; A<sub>2</sub> is an alkyleneoxy group with 3-4 carbon atoms; n<sub>2</sub> is a number between 0-30, provided that when R<sub>2</sub> is an aliphatic group with 5-6 carbon atoms n<sub>2</sub> is at least 1; R<sub>3</sub> is selected from the group consisting of (A<sub>1</sub>)<sub>n1</sub>R<sub>1</sub>, (A<sub>2</sub>)<sub>n2</sub>R<sub>2</sub> and an alkyl group with 1-6 carbon atoms, where A<sub>1</sub>, n<sub>1</sub>, R<sub>1</sub>, A<sub>2</sub>, n<sub>2</sub> and R<sub>2</sub> have the same meaning as mentioned above; or a di- or polycondensate via any of the free hydroxy groups of the ortho ester, wherein said orther ester surfactant is prepared in accordance with the process of claim 5.